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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,666	01/28/2005	Peter Scheibli	4-22732/A/PCT	8590
62968 7590 02/24/2009 HUNTSMAN INTERNATIONAL LLC LEGAL DEPARTMENT 10003 WOODLOCH FOREST DRIVE THE WOODLANDS, TX 77380				
EXAMINER				
KHAN, AMINA S				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
02/24/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/522,666

**Applicant(s)**

SCHEIBL, PETER

**Examiner**

AMINA KHAN

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11/24/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. This office action is in response to applicant's amendments filed on November 24, 2008.
2. Claims 1-10 are pending. Claim 1 has been amended.
3. All prior rejections are withdrawn in view of applicant's amendments to the claims.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1,2 and 4-10 are rejected under 35 U.S.C. 103(a) as obvious over Donenfeld (US 4,576,610) in view of Fukui et al. (US 5,529,586) and Iwata et al. (US 4,702,742).

Donenfeld et al. teach applying 27% polyester resin, 10% acrylate binder and 9% glycerin for lubrication to a release paper on which a sublimable dye has been coated and printing 50:50 polyester:cotton fabrics by applying the free face of the dye bonding

composition to the fabric and applying heat to maintain the assembly at about 440°F for 10 minutes (column 9 and 10, examples 1-4).

Donenfeld teaches printing cotton and cotton/polyester blends with compositions comprising water, polyester resins and acrylic dye binders, in a weight ratio such that more than 50% of the combined weight of polyester resin and dye binder is resin, to provide a fabric with a soft hand (column 1, line 60-68; column 2, lines 1,25-30 and 65-68; column 5, lines 27-35; column 7, lines 15-21; column 6, line 32). Donenfeld further teaches that azo disperse dyes are preferred as sublimatable components (column 7, lines 30-35). Donenfeld further teaches applying the dye bonding composition to the fabric and then applying a conventional sublimation dye (column 14, lines 1-10). Donenfeld further teaches applying to a paper based release paper the dye bonding composition and then the dye composition and then a second layer of dye bonding composition (columns 14 and 15, examples 21 and 22).

Regarding the limitations of drying the pretreating solution followed by condensing the polymer, as claimed in claim 6, this would obviously be met by examples 3 and 4 because the bonding layer first impacts the fabric and would be heated causing drying and condensing, followed by the sublimation layer contacting the fabric second.

Donenfeld is silent as to the structures of the disperse dyes and applying by exhaust or padding methods and does not teach water-soluble polyester resins.

Fukui et al. teach coloring polyester and cotton blends with compositions comprising resins and disperse dyes of Tables 2 and 3 for sublimation transfer coloring

or applying by padding onto cloth or in a dye bath with heat, which meets the limitation of exhausting (column 9, lines 1-45, columns 3-8). Fukui et al. teach these compositions produce excellent dyeings and printings with high fastness properties.

Iwata et al. teach that cotton and polyester blends can be effectively printed with disperse dyes when the fabric is pretreated with a polymeric ink acceptor such as a water-soluble polyester resin (column 2, lines 15-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the printing methods of Donenfeld by incorporating the dyes of Tables 2 and 3 taught by Fukui because Fukui et al. teach the superior sublimation printing produced by these compounds. Furthermore, Donenfeld invites the inclusion of disperse dyes of the azo class which are satisfactorily known to bond polyester. It would have been further obvious to color the substrates by either exhausting or padding because Fukui teach these as functionally equivalent ways of treating fabrics.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the printing methods of Donenfeld by incorporating the water soluble polyester resin ink acceptors taught by Iwata et al. because Iwata et al. teach these compounds as effective in easily and rapidly absorbing the ink comprising disperse dyes to provide precise printing and high fixation efficiency for polyester/cotton blend fabrics (column 3, lines 10-25). Furthermore, Donenfeld invites the inclusion of any polyester resin which would not otherwise adversely effect the dyeing process or printed product.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as obvious over Donenfeld (US 4,576,610) in view of Fukui et al. (US 5,529,586) and Iwata et al. (US 4,702,742) and further in view of Yamane et al. (US 4,210,412).

Donenfeld, Fukui and Iwata are relied upon as described in paragraph 5.

Donenfeld, Fukui and Iwata do not teach crosslinking agents.

Yamane et al., in the analogous art of transfer printing, teach treating cellulosic textiles with sublimable dispersible dyes and acrylic binders and additionally treating with crosslinking agents to increase the color fastness to washing of the disperse dye (column 3, lines 20-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the printing methods of Donenfeld, Fukui and Iwata by incorporating the crosslinking agents into the second layer of dye bonding agent as taught by Yamane because Yamane et al. teach the superior disperse dye color fastness in washing of fabrics treated with the crosslinker.

Regarding the method limitation of condensing the pretreatment, this would obviously be provided by the drying and heating steps which would remove solvent and dehydrate the resin.

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMINA KHAN whose telephone number is (571)272-5573. The examiner can normally be reached on Monday through Friday, 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lorna M Douyon/  
Primary Examiner, Art Unit 1796

/Amina Khan/  
Examiner, Art Unit 1796  
February 12, 2009